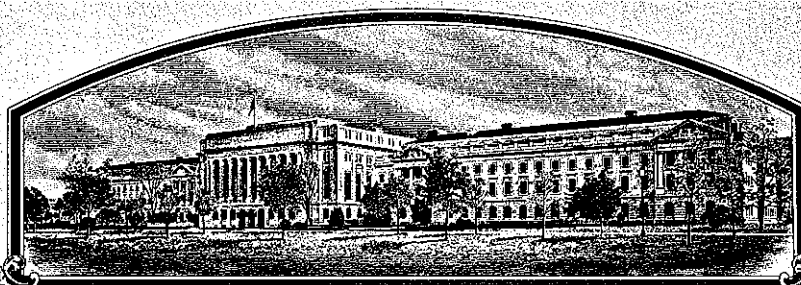


No.

7900004



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Western Plant Breeders, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE
Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'WestBred 1000D'

In Testimony Whereof, I have hereunto set
my hand and caused the seal of the Plant
Variety Protection Office to be affixed
at the City of Washington
this 27th day of November in
the year of our Lord one thousand nine
hundred and seventy-nine



Attest

[Signature]
Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

[Signature]
Secretary of Agriculture

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

1a. TEMPORARY DESIGNATION OF VARIETY 3024 WPB 1000D		1b. VARIETY NAME WestBred 1000D		FOR OFFICIAL USE ONLY PV NUMBER 79000004	
2. KIND NAME Wheat		3. GENUS AND SPECIES NAME Triticum durum		FILING DATE 10-4-78 TIME 2:30 A.M. P.M.	
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION 3-24-77		FEE RECEIVED \$ 250.00 \$ 250.00 \$ 250.00 DATE 10-4-78 10-4-78 10-29-79	
6. NAME OF APPLICANT(S) WPB ACQUISITION INC. Western Plant Breeders Inc. WESTERN PLANT BREEDERS, INC. (a Maryland Corporation)		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) RR3 Conrad, Montana 59425 1918 VAN BUREN P.O. BOX 1110 PHOENIX, AZ 85001 ATTN: MR. ROBERT HUNTINGTON		8. TELEPHONE AREA CODE AND NUMBER 406-278-5547	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation		10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Arizona, Dec 1, 1977		11. DATE OF INCORPORATION	

12. Name and mailing address of applicant representative(s), if any, to serve in this application and receive all papers:

Albert E Carleton RR3 Conrad, Montana 59425

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☐ 13D. Exhibit D, Additional Description of the Variety.

14A. Does the applicant(s) specify that seed of this variety be sold by variety name only as a class of certified seed? (See Section 83(a): (If "Yes," answer 14B and 14C below.) ☒ YES ☐ NO

14B. Does the applicant(s) specify that this variety be limited as to number of generations?

☒ YES ☐ NO

14C. If "Yes," to 14B, how many generations of production beyond breeder seed?

☒ FOUNDATION ☒ REGISTERED ☒ CERTIFIED

15. Does the applicant(s) agree to the publication of his/her (their) name(s) and address in the Official Journal?

☒ YES ☐ NO

16. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be deposited upon request before issuance of a certificate and will be replenished periodically in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

8/20/78
(DATE)Albert E Carleton
(SIGNATURE OF APPLICANT)

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and \$250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, Beltsville, Maryland 20705. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

- 5 Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- 13a Give (1), the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method. (2), the details of subsequent stages of selection and multiplication. (3), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.
- 13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.
- 13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.
- 14A If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

13.A. (Revision)

'WestBred 1000 D' traces to a selection by Mr. Rex Thompson of the University of Arizona at the Mesa Experiment Station in 1973, from a portion of the world collection being grown there. The world collection number was W.C. 3024, which can be traced to C.I. 15110. In 1974, a bulk increase of W.C. 3024 produced at Mesa was obtained from Mr. Thompson. About 1,000 head rows were grown in Arizona during the 1975-76 year. A total of 642 rows were selected from these head rows based upon less shrivelled kernels and lower levels of yellow berry*. These bulked head rows were increased in Montana during the summer of 1976. This increase was named WPB 1000 D and tested under this number in the Southwest in 1977 and 1978. Thus, 'WestBred 1000 D' traces to a reselection under Arizona growing conditions from C.I. 15110.

The original selection made by Mr. Thompson appeared very uniform in growth and plant characteristics, except for variants in amount of shrivelled seed and amounts of yellow berry from the different head rows. Thus, head row selection for these traits reduced these ~~variants~~ ^{9/4/79} but did not influence other characteristics.

'WestBred 1000 D' is a stable variety and will not show variants from generation to generation. Data from the 1977 and 1978 University of Arizona test at Mesa are presented in Table 1.

'WestBred 1000 D' is a very uniform variety. The major variants will be red chaff instead of white at a frequency of less than 1 in 100,000 plants.

* The frequency of shriveled kernels and yellow berry in the 642 head bulk was 14% and 9% compared to 37% and 34% for the original bulk of 'W.C. 3024' when grown in 1977 at Phoenix, Arizona. ^{9/4/79 as per letter}

13.B (Revised) 'WestBred 1000 D' is a semi-dwarf durum adapted to the the Southwest, which has excellent yield and straw strength (see Tables 1 and 1A of 13 A). 'WestBred 1000 D' most closely resembles 'Produra' since both are semi-dwarfs with black awns at maturity. However, 'WestBred 1000 D' is 12 to 15 days later in heading than 'Produra' and is 10cm. taller.

Table 1. Agronomic performance of WestBred 1000D and several other durum varieties tested by the University of Arizona at Mesa in 1977 and 1978.

Variety	Yield #/A		Height CM		Heading Date		% Lodging	
	1977	1978	1977	1978	1977	1978	1977	1978
WPB 1000D	6531	6439	88	98	3-25	3-27	0	0
Jori 69	5718	6009	95	98	3-16	3-16	0	26
Produra	5015	5988	82	90	3-13	3-12	0	40
Mexicali 75	-----	5292	98	98	3-10	3-7	0	66

FORM GR-470-6
(2-15-73)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

FORM APPROVED. OMB NO. 40-R3712

EXHIBIT C
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S)

Western Plant Breeders Inc.

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)

RR 3 Conrad, Montana 59425

FOR OFFICIAL USE ONLY

PVPO NUMBER

7900004

VARIETY NAME OR TEMPORARY
DESIGNATION

7900004

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. or) when number is either 99 or less or 9 or less.

1. KIND: 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE: 1 = SOFT 3 = OTHER (Specify) 2 = HARD

1 = SPRING 2 = WINTER 3 = OTHER (Specify)

1 = WHITE 2 = RED 3 = OTHER (Specify) Durum

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO: In Arizona

FIRST FLOWERING

LAST FLOWERING

4. MATURITY (50% Flowering): In Arizona

NO. OF DAYS EARLIER THAN

1 = ARTHUR 2 = SCOUT 3 = CHRIS

NO. OF DAYS LATER THAN

4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH

CM. TALLER THAN

CM. SHORTER THAN

1 = ARTHUR 2 = SCOUT 3 = CHRIS
4 = LEMHI 5 = NUGAINES 6 = LEEDS

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

NO. OF NODES (Originating from node above ground)

Waxy bloom: 1 = ABSENT 2 = PRESENT

Internodes: 1 = HOLLOW 2 = SOLID

CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT

Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify):

Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

MM. LEAF WIDTH (First leaf below flag leaf)

Flag leaf: 1 = NOT TWISTED 2 = TWISTED

Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

CM. LEAF LENGTH (First leaf below flag leaf)

11. HEAD:

2 Density: 1 = LAX 2 = DENSE 2 Shape: 1 = TAPERING 2 = STRAP 3 = GLAVATE
4 = OTHER (Specify) _____

4 Awedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

1 Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED
5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

0 8 CM. LENGTH 1 5 MM. WIDTH

12. GLUMES AT MATURITY:

3 Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) 3 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)
3 = WIDE (CA. 4 mm.)

4 Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 2 Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE
4 = SQUARE 5 = ELEVATED 6 = APICULATE

13. COLEOPTILE COLOR:

1 1 = WHITE 2 = RED 3 = PURPLE

14. SEEDLING ANTHOCYANIN:

1 1 = ABSENT 2 = PRESENT

15. JUVENILE PLANT GROWTH HABIT:

2 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

16. SEED:

3 Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL 1 Cheek: 1 = ROUNDED 2 = ANGULAR
2 6/27/79 2 Brush: 1 = SHORT 2 = MEDIUM 3 = LONG 2 6/27/79 2 Brush: 1 = NOT COLLARED 2 = COLLARED

* Phenol reaction 1 = IVORY, 2 = FAWN 3 = LT. BROWN
(See instructions): 4 = BROWN 5 = BLACK

2 Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

0 2 6/27/79 0 4 6/27/79 5 1 GM. PER 1000 SEEDS

17. SEED CREASE:

2 Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'
2 = 80% OR LESS OF KERNEL 'CHRIS'
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

2 6/27/79 2 Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'
2 = 35% OR LESS OF KERNEL 'CHRIS'
3 = 50% OR LESS OF KERNEL 'LEMHI'

18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

2 STEM RUST (Races) 2 LEAF RUST (Races) 2 STRIPE RUST (Races) 0 LOOSE SMUT

2 POWDERY MILDEW 0 BUNT OTHER (Specify) _____

19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

2 SAWFLY 1 APHID (Bydv.) 0 GREEN BUG 0 CEREAL LEAF BEETLE

OTHER (Specify) _____ HESSIAN FLY RACES: 0 GP 0 A 0 B 0 C
0 D 0 E 0 F 0 G

20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering	Produra	Seed size	Jori 69
Leaf size	Jori 69	Seed shape	Jori 69
Leaf color	Jori 69	Coleoptile elongation	Jori 69
Leaf carriage	Jori 69	Seedling pigmentation	Jori 69

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

'WestBred 1000 D' has superior durum milling quality than 'Produra' with semolina dust color score of 10.5 and spaghetti color of 8.0 compared to 9.0 and 6.0 for 'Produra' (See Table 2).

Table 2. Quality of several durum varieties including 'WestBred 1000 D' grown in the Southwest and tested by the USDA North Central Region Quality Laboratory at Fargo, North Dakota.

VARIETY	TEST WEIGHT #/bu.	1000 K wt. Gr.	KERNEL SIZE			WHT PRO. %	SEMO EXT %	DUST COLOR	SPAGHETTI COLOR
			LG. %	MED. %	SM. %				
WestBred 1000 D	61.5	50.8	75	24	1	12.9	57.7	10.5	8.0
Produra	63.6	57.8	83	16	1	13.8	58.1	9.0	6.0
Cocorit 71	62.0	66.7	84	15	1	12.3	57.2	7.5	5.0
Mexicali 75	60.4	65.8	84	15	1	13.8	57.7	11.0	8.0

STATE OF ARIZONA)
) ss.
County of Maricopa)

ASSIGNMENT

WHEREAS, WESTERN PLANT BREEDERS, INC., an Arizona corporation (a/k/a) WESTERN PLANT BREEDERS), having its principal place of business at Phoenix, Arizona, has adopted, used and is using the following Certificate of Protection which is registered in the Plant Variety Protection Office of the Secretary of Agriculture:

Certificate No. 7900004 WestBred 1000D Durum Wheat

WHEREAS, WPB ACQUISITION INC., a Maryland corporation, having its principal place of business in Hayward, California, is desirous of acquiring said Plant Variety Protection Certificate; and

WHEREAS, WESTERN PLANT BREEDERS, INC., states that it has title to the above Certificate and that this transfer does not violate any applicable ruling or order of any court or agency of competent jurisdiction.

NOW, THEREFORE, for valuable consideration, receipt of which is hereby acknowledged, WESTERN PLANT BREEDERS, INC. does hereby assign and set over to WPB ACQUISITION INC., all of the right, title and interest of WESTERN PLANT BREEDERS, INC., in and to the variety of durum wheat named:

"WestBred 1000D"

together with all goodwill associated with that variety and that name, and together with all rights under and to that Certificate of Plant Variety Protection, No. 7900004, issued by the Secretary of Agriculture of the United States of America on November 27, 1979.

WESTERN PLANT BREEDERS, INC.

By Albert E. Carleton
Albert E. Carleton, President

On this 30th day of September, 1985, before me, appeared Albert E. Carleton, to me personally known, who, being by me duly sworn, did say that he is the president of WESTERN PLANT BREEDERS, INC., an Arizona corporation, and that the foregoing Assignment is on behalf of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal at my office in Phoenix, Arizona the day and year last above written.

James M. Ballen aka James M. Smith
Notary Public

My Commission Expires:

November 3, 1986